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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHINGLES, KRISTIE D

ART UNIT PAPER NUMBER

2141

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/785,123	SODERGREN, JASON	
	Examiner	Art Unit	
	Kristie Shingles	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 1, 4-9 and 12-16 are pending.

Response to Arguments

1. In view of the Appeal Brief filed on 4/20/2006, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is a non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendment, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Response to Arguments

2. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and

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useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. **Claims 1, 4, 9 and 12-16** are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-20 of copending Application No. US Publication 2005/0083965.

Claims 1, 4, 9 and 12-16 are directed to the same invention as that of claims 1-20 of commonly assigned US Publication 2005/0083965 as indicated in the table below. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Instant Application US Patent Application 09/785,123	US Publication 2005/0083965
1. A multi-protocol adapter for communicating with one or more remote computers over any one of a plurality of protocols, the adapter comprising: an integrated CPU having an embedded operating system, said operating system including software interface modules and device drivers for one or more of interrogating, monitoring, retrieving data, downloading data, recording data, revising data and performing diagnostics over any one of the plurality of protocols, wherein the operating is capable of simultaneously communicating with the one or more computers running different protocols; and	1, 11, and 18. A protocol adapter for communicating with one or more remote computers over any one of a plurality of protocols, said adapter comprising: a motherboard including an integrated central processing unit (CPU), a plurality of interface modules, a plurality of device drivers and a plurality of daughter-board module slots, said CPU being capable of simultaneously communicating with the one or more computers operating different protocols; and
1(cont'd). a plurality of daughter board interface slots for accepting at least one daughter board interface modules for expanding the protocol of the multi-protocol adapter.	1, 11 and 18(cont'd). at least one daughter-board interface module mounted in one of the plurality of daughter-board slots, said at least one daughter-board module expanding the number of protocols of the adapter beyond those protocols being run by the CPU.
4. A multi-protocol adapter for communicating with one or more remote computers over any one of a plurality of protocols, the adapter comprising: an integrated CPU having an embedded operating system, said operating system including software interface modules and device drivers for one or more of interrogating, monitoring, retrieving data, downloading data, recording data, revising data and performing diagnostics over any one of the plurality of protocols, wherein the operating is capable of simultaneously communicating with the one or more computers running different protocols; the CPU having simultaneous interaction between at	8, 16 and 19. The protocol adapter according to claim 1 wherein the motherboard further includes components selected from a group consisting of an alphanumeric LCD and keypad, a 10-base T Ethernet interface, an EIA232 serial port, a compact flash storage, PCMCIA slots for connection of industry standard peripherals, a 72-pin SODIMM socket for connection of system RAM, an IDE interface for connection of mass-storage devices, a coin-cell battery for clock and configuration memory backup, an IRDA infrared serial interface, a piezoelectric speaker, level shifting buffers, an ATA interface for providing an attachment point for mass

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least one multiple device using multiple protocols; at least one daughter board having interconnect slots; an interface for interconnection of the at least one daughterboard; a serial port for diagnostics and system maintenance; a flash socket for storage of system software; a slot for connection of a peripheral; a socket for connection of RAM; an interface for connection of system RAM; an interface for connection of mass-storage devices; a battery for clock and configuration memory backup; an infrared serial interface; and a piezoelectric speaker.	storage devices and a programmable logic block.. 7. The protocol adapter claim 1 wherein the motherboard further includes a flash-ROM for providing non-volatile memory space.
9. The multi-protocol adapter according to claim 1 further comprising: at least one of message scheduler, a message responder, a message filter or a script loader.	2 and 12. The protocol adapter according to claim 1 wherein the plurality of interface modules include a message scheduler module that includes a user-controllable multiplexed network message schedule. 3 and 13. The protocol adapter according to claim 1 wherein the plurality of interface modules include a script loader module for allowing the controlled download, management and activation of user-defined scripts. 4 and 14. The protocol adapter according to claim 1 wherein the plurality of interface modules includes a message filter module for filtering received multiplexed network messages. 5 and 15. The protocol adapter according to claim 1 wherein the plurality of interface modules include a message transponder module for providing user-definable message gatewaying functionality.
12. The multi-protocol adapter according to claim 1 further comprising: an on-board web server. 13. The multi-protocol adapter according to claim 12 further comprising: communication between users of the adapter and the adapter via a web browser technology. 14. The multi-protocol adapter according to claim 13 further comprising communication between users of the adapter and the adapter via a web browser via HTML.	6. The protocol adapter according to claim 1 further comprising an on-board web server for providing communication between the adapter and a web browser.
15. The multi-protocol adapter according to claim 1, as applied above, yet fail to explicitly teach wherein the plurality of protocols are selected from the group consisting of controller area network protocols, J1850 protocols, keyword protocol 2000, and UART-based protocols.	9. The protocol adapter according to claim 1 wherein the plurality of protocols are selected from the group consisting of controller area network protocols, J1850 protocols, key word protocol 2000, and UART-based protocols.
16. The multi-protocol adapter according to claim 1, wherein the daughter board interface modules are selected from the group consisting of SAJ1850, UBP, CCD, SCI, CAN, SAEJ1587, J1939, J2284, J2411, ISO 11992, 9141-2 and KWP2000 modules.	10, 17 and 20. The protocol adapter according to claim 1 wherein the at least one daughter-board interface module is selected from the group consisting of SAJ1850, UBP, CCD, SCI, CAN, SAEJ1587, J1939, J2284, J2411, ISO 11992, 9141-2 and KWP2000 modules.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 4 and 6-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Abraham et al* (US 5,530,842) in view of *Richter et al* (US 5,905,885) and *Takahashi* (US 5,751,827).

a. **Per claim 4**, *Abraham et al* teach a multi-protocol adapter for communicating with one or more remote computers over any one of a plurality of protocols, the adapter comprising:

- an integrated CPU having an embedded operating system, said operating system including software interface modules and device drivers for one or more of interrogating, monitoring, retrieving data, downloading data, recording data, revising data and performing diagnostics over any one of the plurality of protocols, wherein the operating is capable of simultaneously communicating with the one or more computers running different protocols (col.3 lines 10-18, col.9 line 5-col.10 line 2; multiple channel concentrator includes modules for effectively communicating using different protocols concurrently);
- the CPU having simultaneous interaction between at least one multiple device using multiple protocols (Figure 2, col.3 lines 10-18, col.9 line 5-col.10 line 2);
- a serial port for diagnostics and system maintenance (col.11 lines 1-44);

- a socket for connection of RAM (col.21 lines 47-51);
- an interface for connection of system RAM (col.21 lines 47-51);
- a battery for clock and configuration memory backup (col.11 lines 1-60);

Abraham et al fail to explicitly teach the adapter comprising the following ports. However *Richter et al* disclose the inclusion of peripheral and expansion ports with the teaching of a system adapter and socket controller used for interfacing subsystems of different formats and protocols (col.5 lines 15-21); furthermore *Richter et al* teach the adapter and controller comprising: at least one daughter board having interconnect slots (Abstract, col.4 line 66-col.5 line 52, col.18 lines 7-16); an interface for interconnection of the at least one daughterboard (Abstract, col.4 line 30-col.5 line 52); a flash socket for storage of system software (col.1 lines 25-59); a slot for connection of a peripheral (col.5 line 16-col.6 line 44); an interface for connection of mass-storage devices (col.1 lines 43-53, col.3 lines 18-25); and an infrared serial interface (col.5 lines 20-58). *Abraham et al* and *Richter et al* fail to explicitly teach a piezoelectric speaker, however a piezoelectric speaker is common in the art as an additional component on a printed circuit board as disclosed in *Takahashi* (col.2 lines 45-51, col.6 lines 28-33).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Abraham et al* and *Richter et al* with *Takahashi* in order to implement an multi-protocol adapter with additional ports/slots for expansion and peripheral devices and to furthermore include a piezo speaker useful for providing audio abilities while saving estate and space on the circuit board.

b. **Claim 1** contains limitations that are substantially equivalent to claim 4 and is therefore rejected under the same basis.

c. **Per claim 6**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, *Abraham et al* further teach the adapter further comprising: means for defining communication routines between the adapter and a client via a host device, and means for communicating between the adapter and the client after definition of communication routines between the adapter and the client (col.9 lines 20-42, col.10 lines 54-67, col.12 lines 40-45; *Richter et al*: col.9 line 32-col.10 line 47).

d. **Per claim 7**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, *Abraham et al* further teach the adapter further comprising: a TCP/IP connection established between two software elements, the connection of serial multiplex network messages between software entities being generalized without knowledge of a specific type of multiplex network (Abstract, col.9 line 8-col.10 line 53, col.15 lines 19-67; *Richter et al*: col.5 lines 15-31).

e. **Per claim 8**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, *Abraham et al* further teach the adapter further comprising: a server program handling communications between a source entity and a destination entity (col.10 lines 6-26; *Richter et al*: col.5 line 58-col.6 line 5, col.21 line 1-col.22 line 60).

f. **Per claim 9**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, *Abraham et al* further teach the adapter further

comprising: at least one of message scheduler, a message responder, a message filter or a script loader (col.3 lines 50-54).

7. **Claims 12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Abraham et al* (US 5,530,842), *Richter et al* (US 5,905,885), and *Takahashi* (US 5,751,827) in further view of *Cambron* (US 6,539,027).

g. **Per claim 12**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, as applied above, yet fail to explicitly teach the multi-protocol adapter further comprising: an on-board web server. However, *Cambron* teaches that a central controller card includes an on-board web server, which functions as an Internet gateway (col.7 lines 15-23). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Abraham et al*, *Richter et al* and *Takahashi* with *Cambron* in order to provision an on-board web server to implement the http protocol for Internet support, in conjunction with the other protocols implemented on the multi-protocol adapter.

h. **Per claim 13**, *Cambron* teaches the multi-protocol adapter according to claim 12 further comprising: communication between users of the adapter and the adapter via a web browser technology (col.7 lines 15-23).

i. **Claim 14** is substantially similar to claims 12 and 13 and is therefore rejected under the same basis.

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8. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Abraham et al* (US 5,530,842) *Richter et al* (US 5,905,885), and *Takahashi* (US 5,751,827) in further view of *Reul et al* (US 6,526,340).

j. **Per claim 15**, *Abraham et al* and *Richter et al* with *Takahashi* teach the multi-protocol adapter according to claim 1, as applied above, yet fail to explicitly teach wherein the plurality of protocols are selected from the group consisting of controller area network protocols, J1850 protocols, keyword protocol 2000, and UART-based protocols. However, *Reul et al* teach a multi-vehicle communication interface capable of supporting multiple protocols including keyword protocol 2000 and J1850 protocols (col.3 lines 33-39, col.3 line 53-col.4 line 5, col.5 lines 1-62, col.7 line 60-col.8 line 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Abraham et al*, *Richter et al*, and *Takahashi* with *Reul et al* for the purpose of extending the abilities of the adapter to function in an automobile controller system having interface protocols compatible with various types of vehicles; because support for the additional protocols would permit use of the adapter in various types of vehicles.

k. **Per claim 16**, *Reul et al* teach the multi-protocol adapter according to claim 1, wherein the daughter board interface modules are selected from the group consisting of SAEJ1850, UBP, CCD, SCI, CAN, SAEJ1587, J1939, J2284, J2411, ISO 11992, 9141-2 and KWP2000 modules (col.3 lines 33-39, col.3 line 53-col.4 line 5, col.5 lines 1-62, col.7 line 60-col.8 line 10).

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9. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Abraham et al* (US 5,530,842), *Richter et al* (US 5,905,885), and *Takahashi* (US 5,751,827) in further view of *Liebl et al* (US 6,236,917).

Per claim 5, *Abraham et al*, *Richter et al*, and *Takahashi* jointly disclose the multi-protocol adapter of claim 1 as applied above, yet fail to explicitly teach the multi-protocol adapter according to claim 1, wherein the embedded operating system comprises Linux operating system. However, *Liebl et al* disclose a vehicle diagnostic tool with support for the Linux operating system (col.3 lines 29-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Abraham et al*, *Richter et al*, and *Takahashi* with *Liebl et al* for the purpose of extending the abilities of the system for compatibility with the Linux operating system interface; because the Linux operating system is a freely-distributed open source operating system offering a popular alternative to proprietary operating systems.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Francis et al (6,526,048), de Nijs et al (5,568,525), Nakamura (6,044,425), Wakeland (5,943,481), Richter et al (5,727,184), Burrus Jr et al (4,837,677).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds



RUPAL DHARIA
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